



Confirmation of Product Type Approval

Company Name: KONGSBERG MARITIME AS, TRONDHEIM

Address: SKONNERTVEGEN 17053 RANHEIMP.O. BOX 2434 7005 Norway

Product: Cargo Tank Ullage Monitoring and Control System

Model(s): K-Gauge

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	20-2035016-PDA	06-NOV-2020	05-NOV-2025
Manufacturing Assessment (MA)	20-4414541	27-AUG-2020	26-AUG-2025
Product Quality Assurance (PQA)	NA	NA	NA

Tier

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Intended Service

ABS Classed Vessels and Offshore Facilities in accordance with the listed ABS Rules and International standards.

Description

Cargo tank gauging, level measurement and custody transfer systems used on ABS classed oil & chemical tankers, LNG & LPG carriers with AMS, ACC, ABCU, ACCU Notations and offshore installations.

Microprocessor based cargo level (CLS) monitoring and custody transfer systems (CTS).

Microprocessor units RCU, RMP, RDIO, etc. are covered under the separate certificates for K-Chief 700 (20-1996108-PDA) and K-Chief 600 (19-LD1896003-PDA).

Ratings

Power supplies: 18 - 35 V DC

Service Restrictions

1. Unit Certification is required for this product.
2. Each application and configuration is to be specifically approved.
3. ATEX certified equipment is not to be installed in hazardous areas on U.S. Flagged Vessels, unless it can be proven to have been tested to the IEC 60079 series standards by an independent laboratory accepted by the U.S. Coast Guard. USCG MI Notice 01-12 (February 7, 2012).
4. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or

standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. For products to be installed in hazardous area, valid EX-certificates are to be provided for each installation.
3. K-Gauge is assigned Category II as defined at 4-9-3/7.1 of the 2020 Marine Vessels Rules. Accordingly, documentation is to be maintained and made available to ABS on request and witness testing by an ABS Surveyor is to be carried out as detailed in 4-9-3/9.5 and 4-9-3/11.9 of the 2020 Marine Vessels Rules.

Notes, Drawings and Documentation

Drawing No. 386565 Rev. C, K-Gauge Gas - Product Sheet

Drawing No. 394855 Rev. B, K-Gauge GL-300 based multifunction system with dual radar

Support Documentation from previous review:

Drawing No. SW revision history for K-Gauge 386311, Revision: N, Pages: 12;

Drawing No. 394855, K-Gauge GL-300 multifunction dual radar, Revision: A

Drawing No. K-Gauge, K-Gauge GL-300 multifunction system dual radar Product description

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 05/Nov/2025 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

ABS Rules

2020 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2020 Rules for Building and Classing Marine Vessels: 4-6-4/11.9, 5C-1-7/13, 5C-8-13/1, 5C-9-13/1

2020 Rules for Conditions of Classification, Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2020 Rules for Building and Classing Mobile Offshore Units: 4-2-3/3.7

International Standards

NA

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read 'Joseph W. ...'.

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 12-Nov-2020 9:54

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.